

Accountability Report 2014–2015

Department of Energy ◀



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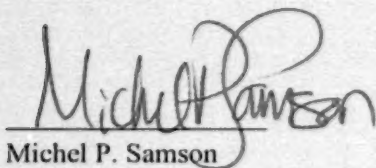
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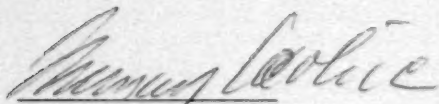
Accountability Statement

The Accountability Report of the Department of Energy for the year ended March 31, 2015 is prepared pursuant to the Finance Act and government policies and guidelines. These authorities require the reporting of outcomes against the Department of Energy Statement of Mandate for the fiscal year just ended. The reporting of the Department of Energy outcomes necessarily includes estimates, judgments and opinions by the Department of Energy management.

We acknowledge that this Accountability Report is the responsibility of Department of Energy management. The report is, to the extent possible, a complete and accurate representation of outcomes relative to the goals and priorities set out in the Department of Energy 2014-2015 Statement of Mandate.

A handwritten signature in dark ink, appearing to read "Michel P. Samson", written over a horizontal line.

Michel P. Samson
Minister

A handwritten signature in dark ink, appearing to read "Murray Coolican", written over a horizontal line.

Murray Coolican
Deputy Minister

Message from the Minister

2014-15 has been an exciting year for the Department of Energy – and for Nova Scotia’s energy sector. From activity and progress on our offshore, to leadership in developing and connecting renewable energy to the grid, there is reason for optimism in this province.

The Department has driven investment attraction efforts in offshore oil and gas, tidal energy, and liquefied natural gas. These opportunities have the potential to change our economic landscape – from one end of the province to the other. At the same time, we are developing regulations and policies that effectively and responsibly guide the direction of the industry and its growth in our province – from electricity and energy efficiency, to marine renewable energy and hydraulic fracturing.

Last year, we announced a \$12-million investment into offshore geoscience research over four years, and that work continues. This research helps build the case for investment in Nova Scotia’s offshore, which translates into jobs, local spending, spinoff benefits, and economic growth throughout the province and the region. Our past work in this space – the Play Fairway Analysis – formed part of the business case that attracted billion-dollar projects from both Shell and BP to our shores.

In November, we hosted 700 delegates from 25 countries at the 2014 International Conference for Ocean Energy. This was the first time the conference was held in North America, and a true testament to our global reputation as a tidal energy centre of excellence.

Both our powerful natural resource and the significant expertise we continue to build in this province position us to serve as the world’s testing grounds for new tidal technologies – and an exporter of both energy and expertise in the field.

The *Marine Renewable-energy Act*, developed in 2014-15, provides a clear framework for the responsible development of the industry in Nova Scotia, and will advance next year.

When it comes to renewable energy, Nova Scotia continues to be a leader. We’re on track to meet our legislated target of 25 per cent of electricity from renewables by 2015. And with approved projects like the Maritime Link, we are on track to meet or exceed our 2020 target of 40 per cent renewables as well.

Meaningful consultation is a priority for this department. Throughout the last year, we spoke to Nova Scotians -- more than 1,300 people from communities throughout the province -- in person, online and by phone about the province’s electricity future. The result was our Electricity Review Report, released in April -- the first of its kind in more than a decade.

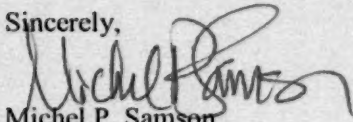
We learned that, ultimately, Nova Scotians care about this province’s energy future. People told us they want long-term rate stabilization and more predictable costs on their power bills. They

want more accountability and transparency in how electricity rates are set. And they support a focus on renewable energy and innovation, when it makes financial sense.

Most importantly, Nova Scotians want to be part of a long-term, sustainable and cost-effective path forward, one that benefits ratepayers today while protecting our environment for future generations. And that's the input we will act on when we release our electricity plan this fall.

Optimism. Leadership. Momentum. That's what we see for Nova Scotia's energy future. Optimism in our offshore. Leadership in renewable energy. And continued momentum in all areas as we move our energy economy forward.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michel P. Samson", written over the printed name.

Michel P. Samson
Minister of Energy

Financial Results

	2014-2015 Estimate	2014-2015 Actual Expense	2014-2015 Variance
Program & Service Area	(\$ thousands)	(\$ thousands)	(\$ thousands)
Gross Departmental Expenses:			
Administration	2,064	2,268	204
Sustainable and Renewable Energy	2,234	2,405	171
Business Development and Corporate Services	3,009	3,176	167
Petroleum Resources	4,063	4,209	146
Non-Electricity Energy Efficiency, Sustainable Transportation and Conservation Grants	16,750	15,642	(1,108)
Canada-NS Offshore Petroleum Board	3,965	4,012	47
Total: Gross Departmental Expenses	32,085	31,712	(373)
Additional Information:			
Ordinary Recoveries	3,904	2,242	1,662
Provincial Funded Staff (FTEs)	59.5	53.3	(6.2)

Variance Explanation:

1. Gross Departmental Expenses were \$373 thousand lower than estimated, primarily due vacancy savings and operational cost efficiencies.
2. Ordinary Recoveries were \$1.7 million lower than budgeted due primarily to delay in the wind-up of a consolidated entity (offset by minor recoveries in several other areas).
3. Provincial Funded staff (FTEs) were less than budgeted due primarily to temporarily vacant positions.

Measuring our Performance

The mandate of the Department of Energy is to manage and promote energy resources to achieve optimum economic, social and environmental value from the energy sector. This mandate is reinforced by the Department's strategic priorities which support the development of a diverse energy supply, use of sustainable and renewable resources, and growth of local industries to generate economic benefits for the province.

The Department of Energy's strategic outcomes were revised in 2014-15, these included:

- A more diverse, competitive and cleaner energy economy
- A substantial and growing offshore petroleum sector
- Optimal benefits received from energy resource development
- Socially responsible development of Nova Scotia's energy sector

The work of the Department was also aligned with the priorities set by government, these included:

- Accessible, responsive healthcare
- Consumer-focused energy solutions including a regulated, competitive energy market
- Helping all Nova Scotians meet their fullest potential by supporting venerable communities- seniors, disabled
- Investing in student success with a renewed and strengthened education system
- Prosperous businesses of all sizes- creating jobs across the province
- Responsible fiscal management

Looking back on this past year, the Department of Energy achieved a number of successes to support these outcomes and priorities. Highlights of key accomplishments are included, under the heading of the strategic outcome and government priority to which they are most directly aligned.

A MORE DIVERSE, COMPETITIVE, AND CLEANER ENERGY ECONOMY

CONSUMER-FOCUSED ENERGY SOLUTIONS INCLUDING A REGULATED, COMPETITIVE ENERGY MARKET

Electricity Review

- Last year, more than 1,300 Nova Scotians, stakeholders, and experts, shared their feedback and expertise for our electricity future as part of the Province's Electricity Review.
- The Electricity Review Report was tabled in May 2015 on the results of the public consultation process. Additionally, a number of technical reports, summary documents and other information on the electricity review process were made available on the Department's website (www.gov.ns.ca/electricityfuture).
- Part of the public consultation process included a public opinion survey of approximately 1000 Nova Scotians. While the results of the survey were incorporated into the electricity review report, it is also publicly available as a stand-alone product.

Sustainable Transportation

- The implementation of Choose How You Move, the Province's Sustainable Transportation Strategy's action items were under way in the 2014-15 fiscal year. The Nova Scotia Moves grant program, established under the Sustainable Transportation Strategy, supported action and capacity building at the community level and has served as a catalyst for partnerships and investment in sustainable transportation systems throughout Nova Scotia.
- The Nova Scotia Moves program provided funding to sustainable transportation projects throughout the province. The third and final round of funding was completed in the 2014-15 fiscal year. It supported active transportation infrastructure, planning and design, community and public transit, education, public engagement and awareness.
- Over the three rounds of funding, the Nova Scotia Moves program was able to leverage approximately \$5.3 million in matching funding from municipalities, non-profit organizations, other provincial government sources, in-kind, local corporate sponsorships and federal government sources.
- The Dalhousie Transportation Research Collaboratory (DalTRAC), a partnership with the Province, was created under the Sustainable Transportation Strategy mandate in March 2013 to enhance sustainable transportation data collection. The baseline data was collected and distributed in 2014.
- Work occurred on new grant program, Connect2, which was announced in May 2015.

A SUBSTANTIAL AND GROWING OFFSHORE PETROLEUM SECTOR

PROSPEROUS BUSINESSES OF ALL SIZES - CREATING JOBS ACROSS THE PROVINCE

Offshore Growth Strategy

- **Geoscience research and marketing:**
 - In 2014, the Province welcomed new industry partners to the existing exploration projects in the offshore:
 - Shell Canada added new partners ConocoPhillips and Suncor. Shell maintains a 50% interest and remains operator of the exploration program. ConocoPhillips acquired a 30% interest and Suncor acquired a 20% interest.
 - BP Canada added new partners Woodside Petroleum and Hess Corporation. BP retains a 40% interest and remains operator of the exploration program. Hess has a 40% interest and Woodside the remaining 20%.
 - The Laurentian Sub-basin study, consisting of new geoscience data for that region, was released. This was an extension of the Play Fairway Analysis released in 2011.
 - Marketing of new geoscience occurred through seminars and one-on-one meetings as part of investment attraction efforts.
- **Business development:**
 - The Department continued work on building capacity within the Nova Scotia energy supply chain to ensure local companies are prepared and able to take advantage of potential opportunities related to offshore exploration activity. Last year, this included:
 - conducting research on possible development scenarios in the future and highlighting alignments with current local capabilities; and
 - working with local industry associations to identify current and future opportunities.
 - The Department consulted with Nova Scotia companies to ensure that the offshore related trade missions and shows that the Province participated in last year had the best return on investment in terms of solid business leads for the provincial private sector.

OPTIMAL BENEFITS RECEIVED FROM ENERGY RESOURCE DEVELOPMENT

PROSPEROUS BUSINESSES OF ALL SIZES - CREATING JOBS ACROSS THE PROVINCE

Marine Renewable Energy

- **Regulatory activities:**
 - The Department undertook significant work last year to develop new legislation for marine renewable energy activity in Nova Scotia. The *Marine Renewable-energy Act* was introduced on April 29th, 2015 and this Act creates a licensing system that paves the way for safe, commercial, and competitive marine renewable energy development.
 - The Strategic Environmental Assessment (SEA) update for the Bay of Fundy Region and the Community Response report for the Cape Breton Region (inclusive of the Bras d'Or Lakes) were completed to guide policy and development in these areas. The Department completed a formal response to the SEA reports in May 2014.
- **Research activity:**
 - Release of the Statement of Best Practice for In-stream Tidal Energy Development and Operation. The Statement highlights the necessary elements and principles for an adaptive approach to growing a tidal industry in Nova Scotia.
 - In the Fall of 2014, Halifax hosted the International Conference on Ocean Energy and welcomed more than 700 delegates from 25 countries. This was the first time this conference was held outside of Europe.
- **Business development:**
 - The Department took advantage of the surging interest in Nova Scotia tidal energy by working on business linkage projects between outside investors and the local supply chain.
- **Industry activity:**
 - Fundy Ocean Research Center for Energy (FORCE) successfully installed 4 subsea power cables.
 - Award of 17.5MW of Developmental Tidal Feed-in-Tariff to four developers at FORCE.
 - Completion of the Power Purchase Agreement (PPA) to support developments at FORCE.
 - FORCE's visitor center in Parrsboro had more than 5,200 visitors in 2014.

INVESTING IN STUDENT SUCCESS WITH A RENEWED AND STRENGTHENED EDUCATION SYSTEM

- In 2014-15, the province and Pengrowth Corporation marked the 10th anniversary of the Pengrowth-Nova Scotia Energy Scholarship Program. Since 2005, the program has provided financial assistance through scholarships and grants to 199 students pursuing energy-related studies at universities and the Nova Scotia Community College.
 - In 2014, 16 students received scholarships and one student received an innovation grant.
 - Students selected for scholarships in 2014 were enrolled in: engineering, computer science, environmental engineering technology, and steam and pipefitting.
- The Energy Training Program supported wage subsidies for 19 students in 2014, employed with 17 participating companies.

SOCIALLY RESPONSIBLE DEVELOPMENT OF NOVA SCOTIA'S ENERGY SECTOR

Offshore Growth Strategy- Regulatory Enhancements

- The *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act* was updated in the fall of 2014 to strengthen environmental protection of oil and gas activity in the offshore, with changes focused on four areas: prevention, response, accountability and transparency. As the province jointly manages offshore oil and gas activity with the Federal government, mirror amendments were made to the federal version of this Act (jointly referred to as the Accord Acts).
 - These changes will come into force by February 2016 and the associated regulations are currently under development (i.e. Cost Recovery, Financial Requirements and Administrative Monetary Penalties).
- A new occupational health and safety regime under the Accord Acts came into effect on December 31st, 2014, ensuring offshore oil and gas workers are better protected. This change creates a new role for the provincial Minister of Labour and Advanced Education in the offshore.
- Work continued under the Frontier and Offshore Regulatory Renewal Initiative (FORRI) to modernize existing regulations for the offshore. FORRI is a partnership of federal and provincial government departments and regulators with responsibility for Canada's offshore areas.

Onshore Petroleum

- Onshore Atlas
 - Work began on the Department's Onshore Atlas project to better understand Nova Scotia's onshore geology. The project is a compilation and interpretation of existing geo-scientific data. This will lead to a better understanding of the resource potential for onshore Nova Scotia. A compilation project of existing well and seismic data for the onshore region was completed in 2014-15.
 - A commitment was made to invest \$150,000 in each of the next two years to develop this onshore petroleum atlas.
- Hydraulic Fracturing
 - Dr. David Wheeler, President of Cape Breton University, led an independent, scientific review of hydraulic fracturing in the province. This process involved public engagement throughout the province and the panel submitted their final report to government on August 28, 2014.
 - The *Petroleum Resources Act* was amended in the fall of 2014, prohibiting high-volume hydraulic fracturing. This formally prohibits this technique in shale formations, with the details to be included in regulations (currently in development).
 - To help inform the development of regulations, technical staff at the Department of Energy visited regulators in Alberta, British Columbia, New York State, Pennsylvania, Ohio, West Virginia and North Dakota. These are regulators experienced in hydraulic fracturing.

Progress on Performance Measures

Renewable Electricity	
Outcomes	• A more diverse, competitive and cleaner energy economy • Socially responsible development of Nova Scotia's energy sector
Government Priority	• Consumer-focused energy solutions including a regulated, competitive energy market
Measure	• Percentage of renewable electricity supplied for use in Nova Scotia
Annual Target	• Progress towards 2015 target of 25% renewable sources of electricity generation.
Long-term Target	• Achieve 40% renewable sources of electricity generation by 2020.
Measure/Rationale: The Province has committed to renewable electricity targets in the Renewable Electricity Regulations and <i>Environmental Goals and Sustainable Prosperity Act</i> to reduce use of fossil fuels, and to create greater energy security and a cleaner environment. The target for this measure includes incremental targets of 12% from projects developed after 2001 and 5% from Independent Power Producers (IPPs), which are also included in the renewable electricity regulations. This measure is calculated using data from Nova Scotia Power Incorporated (NSPI)'s Annual Report. The annual production of renewable electricity is divided by the annual total of electricity sales. For 2014, the calculation included: 2,464 GWh of renewable energy supplied ÷ 10,287 GWh of total electric sales = 24% renewable electricity supplied for use in Nova Scotia. Last year NSPI was able to continue progress towards the 2015 target of 25%, with the utility almost meeting the 2015 target last year. This result was impacted by an increase in production volumes from renewable supplies and was offset slightly by an increase in the overall total of electricity supplied by NSPI to NS.	
Progress on Target	✓ 24% of NSPI's sales came from renewable supply ✓ 14% was from projects after 2001 ✓ More than 10% of NSPI's sales came from IPPs ✓ Award of 17.5MW of Development Tidal Feed-in-Tariffs
Strategic Action to Achieve this Target	✓ Implementation of the Renewable Electricity Plan ✓ Electricity Review ✓ Renewable Electricity Regulations ✓ Introduction of <i>Marine Renewable-energy Act</i>

Changes to Measure	• N/A
New Measures	• A new performance measure was added to measure progress of the Department's Marine Renewable Energy Strategy. The new measure is: # of Tidal energy projects developed, constructed, and operating in NS.

Energy Efficiency Programs	
Outcomes	• A more diverse, competitive and cleaner energy economy • Socially responsible development of Nova Scotia's energy sector
Government Priorities	• Consumer-focused energy solutions including a regulated, competitive energy market • Helping all Nova Scotians meet their fullest potential by supporting vulnerable communities – seniors, disabled
Measure	• Gigajoule (GJ) of energy savings
Annual Target	• 97,932 GJ of energy savings
Long-term Target	• To be determined, targets are currently under review and will be revised following the completion of pilot programs in 2015-16.
Measure/Rationale: Gigajoule (GJ) is a metric term used for measuring energy use and measures per capita energy consumption decreases. According to Statistics Canada an average four person household in Nova Scotia uses approximately 103 GJ of energy annually compared to the national average of 127 GJ, based on 2011 data.¹ Meeting the annual targets for GJ in energy savings results in a cleaner environment through lower energy consumption of other fuels and saves homeowners money. The level of funding provided to Efficiency Nova Scotia for their non-electric energy efficiency programs has a direct impact on projected energy savings (energy efficiency programs for electric users are not funded by the Department of Energy but through other mechanisms). The 2014-15 non-electric efficiency program budget as provided under the agreement between the Department of Energy and Efficiency Nova Scotia was \$14.5 million, however due to additional funds remaining from previous years and with an increased focus on low-income programming, \$18.99 million was actually spent by Efficiency Nova Scotia on non-electric programs in 2014-15. The greater focus on low income programming proved to be an effective and efficient use of funds and resulted in more program participants (target was 14,071, actual was 15,259 participants) and targets for energy savings being significantly exceeded.	
Progress on Target	✓ 15,259 participants (increase from 14,421 participants in 2013-14) ✓ 194,199 GJs in energy saved (increase from 176,991 GJs in energy savings from 2013-14)
Strategic Action to Achieve this Target	✓ \$ 18.99 million was spent on Efficiency Nova Scotia non-electricity efficiency programs in 2014-15.

¹ Statistics Canada <http://www.statcan.gc.ca/pub/11-526-s/2013002/t005-eng.htm>

Changes to Measures	• Wording for this measure was revised in 2014-15, for clarity, to: Total GJ saved. The method for measurement remains unchanged.
New Measures	Energy Efficiency Programs (Non-low income/non-electricity) • GJ of net energy savings per \$1M in program spending Energy Efficiency Programs (Low income/non- electricity) • # of homes retrofitted • GJ of net energy savings per \$1M in program spending

Sustainable Transportation	
Outcomes	• A more diverse, competitive and cleaner energy economy • Socially responsible development of Nova Scotia's energy sector
Government Priorities	• Consumer-focused energy solutions including a regulated, competitive energy market • Helping all Nova Scotians meet their fullest potential by supporting vulnerable communities – seniors, disabled
Measures	• Publish baseline data on sustainable transportation indicators to be tracked over time • Investment in community based initiatives through NS Moves
Annual Targets	• Publish baseline data (e.g. active transportation modal share) • \$900,000-\$1 million in funding disbursed to high quality projects
Long-term Targets	• Track key indicators over time to better inform policy • Building community capacity and assets around transportation and healthy communities
Measure/Rationale: The Province, through the Sustainable Transportation Strategy, committed to promote and develop healthy and livable communities. To achieve these goals the province recognized the need for enhanced data collection, tracking, analysis and modeling to better inform decision-making related to sustainable transportation investments. The Province has partnered with Dalhousie Transportation Research Collaboratory (DalTRAC) to define a set of indicators that would serve as a baseline to measure progress. The baseline data was established (under the Sustainable Transportation Indicators Progress Report) in 2014-15 and sustainable transportation indicators are now being tracked which will allow for evaluation and better strategic direction over time. In 2014-15, the Department of Energy invested in community-based initiatives through the NS Moves grant program.	
Progress on Target	• The Dalhousie Transportation Research Collaboratory (DalTRAC) was established and baseline data was collected. Some key indicators were published on the Government of Nova Scotia's sustainable transportation website (http://novascotia.ca/sustainabletransportation/docs/Sustainable-Transportation-Indicators.pdf). • A progress report on NS transportation data and the modeling centre has been received and will be posted to the sustainable transportation

	website upon approval by DalTRAC. • The Department invested in community-based sustainable transportation projects across NS.
Strategic Action to Achieve this Target	✓ Provided funding to establish DalTRAC and released information on the sustainable transportation website (http://novascotia.ca/sustainabletransportation/). ✓ Approximately \$610,000 was invested in NS Moves projects in 2014-15.
Changes to Measures	• Following an analysis of the baseline data collected in 2014-15, the sustainable transportation measures were replaced with more performance based measures.
New Measures	• Mode share for commuting in NS • % of municipalities with Active Transportation (AT) plans • # of km of designated bicycle lanes² • # of km of trails³

² A designated bicycle lane includes on-street bike-lanes, physically separated or designated lanes with painted lines.

³ This includes trails for walking and biking, built to touring and commuting standards (e.g. improved rail-trails).

Offshore Growth Strategy	
Outcomes	• A substantial and growing offshore petroleum sector • Optimal benefits received from energy resource development • Socially responsible development of Nova Scotia's energy sector
Government Priorities	• Prosperous businesses of all sizes - creating jobs across the province • Responsible fiscal management
Measures	• Exploration investment commitments for the Call for Bids
Annual Target	• Response by industry to the Call for Bids process
Long-term Target	• Industry investments lead to discoveries and development of resources
Measure/Rationale: A Call for Bids is a formal announcement by the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) that a licence is available to be awarded through a competitive bidding process. The land in which the licence is available for bidding has been nominated by industry or posted by the CNSOPB. The figures represent a commitment by a successful bidder to invest a specified amount in an exploration program in Nova Scotia's offshore within a specified period of time. This measure supports the Offshore Growth Strategy, where investments in geoscience research are being made to promote investment in Nova Scotia's offshore. Data for this measure is from the CNSOPB and is based on oil and gas companies' investment commitments in the offshore. The CNSOPB issued a Call for Bids (NS14-1) on May 5, 2014 consisting of 4 parcels on the Scotian Slope in water depths between 100m and 4,100m. No industry bids were received as a result of this call. While there were no industry bids, the province was successful in attracting new world class companies to invest in existing exploration projects. The Department has now focused efforts on the 2015 Call for Bids.	
Progress on Target	✓ Investments in geoscience research included seismic analysis, biostratigraphy, petroleum systems modeling in the Laurentian Sub-basin. ✓ Department of Energy staff conducted marketing events including: seminars and one-on-one meetings to promote the geoscience research. ✓ Shell Canada added new partners ConocoPhillips and Suncor Energy to their exploration project and are expected to drill their first exploratory well by the end of 2015. ✓ BP added partners Hess Corporation and Woodside Petroleum to their exploration project and plan to drill their first exploratory well in 2017.

Strategic Action to Achieve this Target	✓ Conduct additional geoscience studies required to keep the Play Fairway Analysis work current as new information and analysis become available. ✓ Providing industry with a complete picture of the Nova Scotia offshore geology to make the province more competitive in attracting exploration investments. ✓ Work will continue to aggressively market Nova Scotia's potential to global investors, corresponding with the CNSOPB's indications of offshore Calls for Bids. ✓ Following up with companies to find out why no bids are received, as a mechanism to ensure the Department knows what is required moving forward and how improvements can be made. ✓ Work continued to modernize the regulatory regime.
Changes to Measures	• N/A
New Measures	• Number of operators/ industry partners in the offshore